

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/716,743	SATO ET AL.	
	Examiner	Art Unit	
	Tianjie Chen	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 12/05/2006.
2.  The allowed claim(s) is/are 1,3,5,7,8 and 10-19.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

*Chen Tianjie*  
**TIANJIE CHEN**  
**PRIMARY EXAMINER**

### **REASONS FOR ALLOWANCE**

1. The following is an examiner's statement of reasons for allowance:
  - With regard to claim 1, as the closest reference Cohen et al (US 5,995,342) shows a thin-film magnetic head having an opposing face that opposes a recording medium, the thin-film magnetic head including: a lower core layer extending from the opposing face in a height direction; a magnetic layer directly or indirectly connected to the lower core layer at a position a predetermined distance away from the opposing face in the height direction; and a coil toroidally wound around the magnetic layer, the coil including: a plurality of first coil segments that cross over the magnetic layer, the first coil segments being separated from each other with predetermined gaps therebetween in the height direction; a coil insulating layer covering the first coil segments, the magnetic layer being formed on the coil insulating layer; a plurality of second coil segments that cross over the magnetic layer, the second coil segments being formed on the coil insulating layer; and a plurality of bank layers disposed at two sides of the magnetic layer in the track width direction, the bank layers being electrically connected with ends of the first coil segments; wherein ends of each second coil segment in the track width direction are electrically connected with upper faces of the bank layers to connect ends of the adjacent first coil layers with each other via the second coil segments, thereby forming a toroidal coil; a lower magnetic pole layer formed above the lower core layer and a gap layer including a nonmagnetic metal material formed on the lower magnetic pole layer, the lower magnetic pole layer and the gap layer being formed by plating, wherein the magnetic layer is formed on the gap layer and

functions as an upper magnetic pole layer; the lower magnetic pole layer, the gap layer, and the magnetic layer constitute a first composite structure; the width of the first composite structure in the track width direction at the opposing face defines a track width Tw; **but fails to show** that each banking layer includes a second composite structure including a first sublayer including the same material as the lower magnetic pole layer, a second sublayer including the same material as the gap layer, and a third sublayer including the same material as the magnetic layer.

- With regard to claim 18, Cohen et al shows that the bank layer is made of Cu, **which is not a magnetic material.**
- With regard to claim 19, Cohen et al further shows that the bank layer includes Cu, **but fails to show** that it further includes at least one protective layer including Ni, CuNi, or NiP.
- Applicant asserts: the present relates to a head in which an electrical connection segments and second coil segments can be easily and reliably formed and in which the second coil segments are properly insulated from a magnetic pole (Specification, p. 1).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is 571-272-7570. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Tianjie Chen*  
**TIANJIE CHEN**  
**PRIMARY EXAMINER**